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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,388	07/27/2001	Bruce Gillespie	CAI-0001 (PAB-0003)	7804

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EXAMINER

EHICHIOYA, FRED I

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 08/23/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/916,388

Applicant(s)

GILLESPIE ET AL.

Examiner

Fred I. Ehichioya

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 - 62 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 44, 50, 55 and 60 is/are allowed.
- 6) ☒ Claim(s) 1 - 14, 16 - 19, 26, 33, 39 - 43, 45 - 49, 51 - 54, 56 - 59, and 61 - 62 is/are rejected.
- 7) ☒ Claim(s) 10, 15, 20 - 25, 27 - 32, and 34 - 38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This action is responsive to communications filed July 27, 2001.

### Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 2, 3, 4, 5, 11, 12, 13, 14, 18, 19, 26, 33, 39, 40, 41, 45, 52, 56, 57, 61 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,448,564 issued to Alfred N. Johnson et al (hereinafter "Johnson") in view of USPN 6,479,427 issued to Rayford G. Anthony et al (hereinafter "Anthony").

Regarding claims 1, 45, 52, 56, 57 and 61, Johnson teaches a method for automated independent technical review, the method comprising:

receiving an assay result of a radioactive waste container (see column 10, lines 14 – 15);

determining whether said assay result is within a predetermined parameter based on said generating said review template (see column 8, lines 9 – 16);

determining whether a review is required if said assay result is not within said predetermined parameter (see column 10, lines 17 – 20); and

rejecting said assay result if said review is not required and said assay result is not within said predetermined parameter (see column 10, lines 20 – 26).

Johnson does not explicitly teach template.

Anthony teaches generating a review template (see column 5, lines 18 – 21);

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine teaching of Anthony with the teaching of Johnson wherein the template influences and simplify the reading of assay results. The motivation is that template is a standard format for a technical review that does not create excessive manipulations.

Regarding claims 2, Johnson teaches said assay result is a gamma radiation assay result (see column 4, lines 60 – 65).

Regarding claim 3, Anthony teaches generating ...said review is required (see column 5, lines 18 – 21).

Regarding claim 4, Johnson teaches wherein said generating said review template includes:

generating an assay result data field including said assay result (see column 13, lines 55 – 58);

generating a review field including a first instruction based on said determining whether said review is required (see column 4, lines 60 – 65); and

generating a rejection field including a second instruction based on said determining whether said review is required (see column 10, lines 20 – 26).

Johnson does not explicitly teach predetermined parameter.

Anthony teaches generating a requirements field including said predetermined parameter (see column 19, lines 8 - 11);

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine teaching of Anthony with the teaching of Johnson wherein the template influences and simplify the reading of assay results. The motivation is that template is a standard format for a technical review that does not create excessive manipulations.

Regarding claim 5, Johnson teaches determining the ... radioactive waste container (see column 11, lines 62 – 67).

Determining whether ... based on said identity of said material (see column 1, lines 23 – 31).

Regarding claim 11, Johnson teaches wherein said determining.... is within said predetermined parameter (see column 8, lines 9 – 16).

Regarding claim 12, Johnson wherein said determining whether said density of said radioactive waste container is within said predetermined parameter includes determining that said assay result is not within said predetermined parameter if said density is greater than about 2.5 grams per cubic centimeter (see column 10, lines 17 – 20).

Regarding claim 13, Johnson teaches wherein said determining whether said assay result is within said predetermined parameter includes determining whether a radioactive material in said radioactive waste container is lumped (see column 5, lines 10 – 25).

Regarding claim 14, Johnson teaches wherein said determining whether... the ratio of two gamma energies (see column 4, lines 60 – 65).

Regarding claim 18, Johnson teaches wherein said determining whether said assay result is within said predetermined parameter includes determining that said

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assay result is not within said predetermined parameter if a total plutonium weight percent is greater than about 10 percent (see column 10, lines 17 – 20).

Regarding claim 19, Johnson teaches wherein said determining whether said assay result is within said predetermined parameter includes determining that said assay result is not within said predetermined parameter if a criticality safety value is greater than about 220 grams (see column 1, lines 23 – 31).

Regarding claim 26, Johnson teaches wherein said determining whether said assay result is within said predetermined parameter includes determining a nuclide totals result for an isotope (see column 6, lines 33 – 47).

Regarding claim 33, Johnson teaches wherein said determining whether said assay result is within said predetermined parameter includes determining that said assay result is not within said predetermined parameter if a count rate corresponding to said isotope is greater than about 5 times an error value (see column 1, lines 23 – 31).

Regarding claim 39, Johnson teaches wherein said determining whether said assay result is within said predetermined parameter includes:

defining a first segment and a second segment of said radioactive waste container (see column 4, lines 12 – 21);

detecting a first radioactivity level of said first segment (see column 5, line 66 – column 6, line 22);

detecting a second radioactivity level of said second segment (see column 5, lines 1 – 9);

detecting a total radioactivity level of said radioactive waste container (see column 11, lines 62 – 67); and

determining that said assay result is not within said predetermined parameter if said first radioactivity level and said second radioactivity level combined is greater than about 50 percent of said total radioactivity level (see column 1, lines 23 – 31).

Regarding claim 40, Johnson teaches said first segment is at a bottom end of said radioactive waste container (see column 5, lines 1 – 9).

Regarding claims 41, Johnson teaches said first segment is disposed against said second segment (see column 5, lines 1 – 9).

Regarding claim 62, Johnson teaches said determining whether said density... is less than a preselected limit (see column 8, lines 9 – 16).

4. Claims 6, 7, 8, 9, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of Anthony and further in view of USPN 4,497,768 issued to John T. Caldwell et al (hereinafter "Caldwell").



Regarding claim 6, Johnson or Anthony does not explicitly teach said determining whether said assay result is within said predetermined parameter includes determining whether a relative error for a plutonium isotope is within said predetermined parameter.

Caldwell teaches said determining whether said assay result is within said predetermined parameter includes determining whether a relative error for a plutonium isotope is within said predetermined parameter (see column 8, lines 1 – 12).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine teaching of Caldwell with the teaching of Johnson and Anthony wherein the plutonium are also detected during the test.

Regarding claim 7, Johnson teaches wherein said determining whether a relative error for a plutonium isotope is within said predetermined parameter includes:

determining that said assay result is not within said predetermined parameter if an accepted weapons grade weight percent is not within said range (see column 1, lines 23 – 31).

Johnson or Anthony does not explicitly teach determining an absolute 3-sigma error for said plutonium isotope;

determining a range for the weight percent of said plutonium isotope based on said absolute 3-sigma error.

Caldwell teaches determining an absolute 3-sigma error for said plutonium isotope (see column 8, lines 15 – 24);

determining a range for the weight percent of said plutonium isotope based on said absolute 3-sigma error (see column 8, lines 1 – 12).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine teaching of Anthony with the teaching of Johnson wherein the template influences and simplify the reading of assay results. The motivation is that template is a standard format for a technical review that does not create excessive manipulations.

Regarding claim 8, Caldwell teaches using a default isotopic if no measurement for said plutonium isotope is available (see column 10, lines 53 – 55).

Regarding claim 9, Caldwell teaches wherein said determining whether said relative error for said plutonium isotope is within said predetermined parameter includes using a default isotopic parameter if said relative error is greater than about 70 percent (see column 2, lines 53 – 55).

Regarding claim 16, Caldwell teaches said determining whether said assay result is within said predetermined parameter includes comparing a total plutonium mass result to a qualification mass value (see column 8, lines 1 – 12).

Regarding claim 17, Caldwell teaches said comparing includes: comparing said total plutonium mass result to a low qualification mass value (see column 8, lines 36 – 39);

determining that said assay result is not within said predetermined parameter if said total plutonium mass result is less than said low qualification mass (see column 3, lines 31 – 38);

comparing said total plutonium mass result to a high qualification mass value (see column 8, lines 1 – 12); and

determining that said assay result is not within said predetermined parameter if said total plutonium mass result is greater than said high qualification mass value (see column 8, lines 15 – 24).

5. Claims 42, 43, 53, 54, 58 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of Caldwell.

Regarding claims 42, 53 and 58, Johnson teaches A method for automated independent technical review, the method comprising:

receiving an assay result of a radioactive waste container containing a radioactive material (see column 10, lines 14 – 15);

rejecting said assay result if said first review is not required and said relative error is not within said first predetermined parameter (see column 10, lines 20 – 26);

determining whether said radioactive material is lumped (see column 4, lines 60 – 65); and

determining whether a second review is required if said radioactive material is lumped (see column 4, lines 7 – 25).

Johnson does not explicitly teach determining a relative error for a plutonium isotope based on said assay result;

determining whether said relative error is within a first predetermined parameter;

determining whether a first review is required if said relative error is not within said first predetermined parameter;

Caldwell teaches determining a relative error for a plutonium isotope based on said assay result (see column 8, lines 1 – 12);

determining whether said relative error is within a first predetermined parameter (see column 8, lines 15 – 24);

determining whether a first review is required if said relative error is not within said first predetermined parameter (see column 8, lines 1 – 12).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine teaching of Caldwell with the teaching of Johnson wherein the detecting relative error provide an internal measure of masking effect. The motivation is that masking effect is not a serious problem since the material density is generally low.

Regarding claims 43, 54 and 59, Johnson teaches a method for automated independent technical review, the method comprising:

receiving an assay result of a radioactive waste container containing a radioactive material (see column 10, lines 14 – 15);

determining criticality safety value based on said assay result (see column 10, lines 9 – 26); and

rejecting said assay result if said criticality safety value is greater than about 220 grams (see column 10, lines 27 – 28).

Johnson does not explicitly teach determining a total plutonium weight percent based on said assay result;

rejecting said assay result if said total plutonium weight percent is greater than about 10 percent;

Caldwell teaches determining a total plutonium weight percent based on said assay result (see column 8, lines 1 - 12);

rejecting said assay result if said total plutonium weight percent is greater than about 10 percent (see column 2, lines 53 – 55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine teaching of Caldwell with the teaching of Johnson wherein the detecting plutonium weight can be used to analyze the assay result.

6. Claims 46, 47 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of Anthony and further in view of USPN 6,184,030 issued to Mohammad W. Katoot et al (hereinafter "Katoot").

Regarding claims 46 and 51, The rejections of these claims are based on the rejections of claim 1 and in addition Katoot teaches a network coupled to said host system (see column 12, lines 17 – 20); and

a database coupled to said host system for storing data relating to said automated independent technical review (see column 19, lines 19 – 31).

The motivation in combining Katoot is that the network contained within a computer facilitate recognition of patterns in the data.

Regarding claim 47, Katoot teaches a user system coupled to said network (see column 12, lines 17 – 20); and

said user system accessing said host system via said network (see column 12, lines 20 – 24).

7. Claims 48 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of Caldwell and further in view of Katoot.

Regarding claims 48, The rejections of this claim are based on the rejections of claim 42 and in addition Katoot teaches a network coupled to said host system (see column 12, lines 17 – 20); and

a database coupled to said host system for storing data relating to said automated independent technical review (see column 19, lines 19 – 31).

The motivation in combining Katoot is that the network contained within a computer facilitate recognition of patterns in the data.

Regarding claims 49, The rejections of this claim are based on the rejections of claim 43 and in addition Katoot teaches a network coupled to said host system (see column 12, lines 17 – 20); and

a database coupled to said host system for storing data relating to said automated independent technical review (see column 19, lines 19 – 31).

The motivation in combining Katoot is that the network contained within a computer facilitate recognition of patterns in the data.

***Allowable Subject Matter***

8. Claims 44, 50, 55, 60 are allowable over the prior art of record.

The following is a statement of reasons for the indication of allowable subject

matter:

The prior art of record does not teach or fairly suggest "receiving an assay.... to an U<sup>233</sup> isotope is greater than about 5 times an error value.

### ***Claim Objections***

9. Claims 10, 15, 20 – 25, 27 – 32, and 34 – 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred I. Ehichioya whose telephone number is 703-305-8039. The examiner can normally be reached on M - F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on 703-305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should



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you have questions on access to the Private PAIR system, contact the Electronic  
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Fred I. Ehichioya  
Examiner  
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August 22, 2004

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